

INSTRUCTION MANUAL

SOUND MONITOR CARD

NX-22J



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<http://www.rion.co.jp/english/>

Organization of this manual

This manual describes audio recording functions, playback functions, and other operation principles of the NX-22J software. The manual consists of the chapters listed below. You should also consult the documentation for the Sound Level Meter NL-22 (Class 2) or Sound Level Meter NL-32 (Class 1).

Outline

Gives basic information on the software.

Loading and Unloading of Recording Functions

Explains how to load the NX-22J software into the sound level meter and how to unload it.

Event Recording and Interval Recording

Explains how to perform event recording and interval recording.

Reading the Measurement Screen

Explains various items that appear on the display during measurement.

Auto Store (With Sound Recording)

Explains the use of the auto store function with sound recording.

Store Data Format and File Structure

Explains recorded data format and file structure.

Card Capacity and Recording Time/Number of Stored Data

Explains the relationship between memory card capacity and available recording time and number of stored data.

Installing the Playback Software

Explains how to install and uninstall the sound playback software on a computer.

Playback of Recorded Files

Explains how to convert recorded sound files into WAVE files and how to play such files.

Communication Commands

Explains additional commands that become available when the sound recording function is loaded.

Specifications

Lists the technical specifications of NX-22J.

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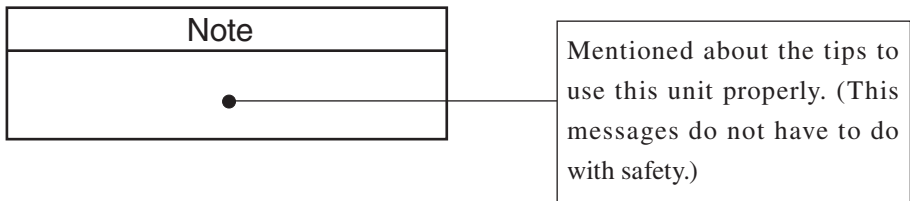
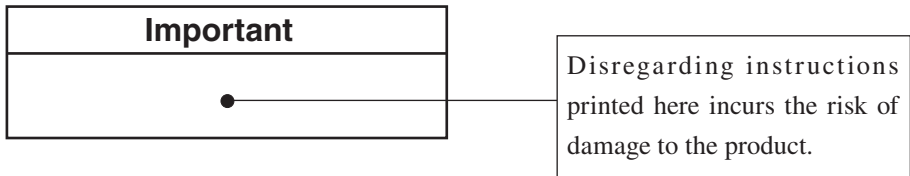
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8. Jurisdiction

Any disputes or litigation arising from this agreement will be under the jurisdiction of the Tokyo District Court.

FOR SAFETY

In this manual, important safety instructions are specially marked as shown below. To prevent the risk of severe damage to the unit or peripheral equipment, make sure that all instructions are fully understood and observed.



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Outline

This card contains software that adds actual sound recording capability to the Sound Level Meter NL-22 or NL-32. Sound files recorded in this way can be converted and played on a computer with the Rion Sound Player software which is also contained on the card.

By loading the software from the Sound Monitor Card NX-22J into the Sound Level Meter NL-22 or NL-32, a sound recording function becomes available. Recorded sound files are compressed by a factor of 4 using a Rion proprietary method, and the files are stored on the memory card. Such files can be converted into WAVE format files and played on a computer, using the supplied playback software installed on the computer.

The sound recording function provided by the NX-22J is intended for aural checking of sound types. It is not suitable for frequency analysis.

Loading and Unloading of Recording Functions

The data on this program card are protected, to ensure that the card cannot be used for several sound level meters simultaneously.

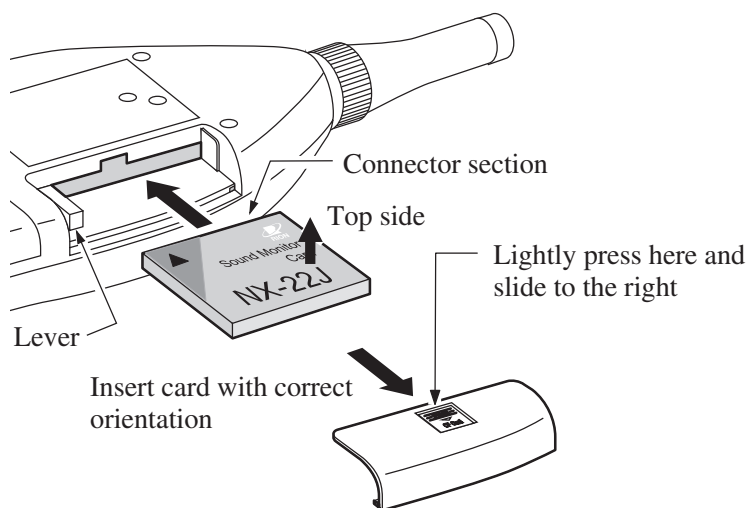
Loading the Sound Recording Function

Important

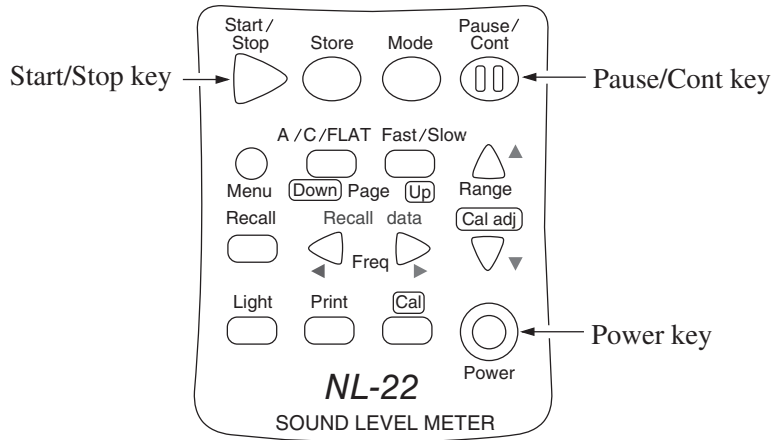
Make sure that power to the sound level meter is turned off before inserting the card.

Load the sound recording function into the sound level meter as follows.

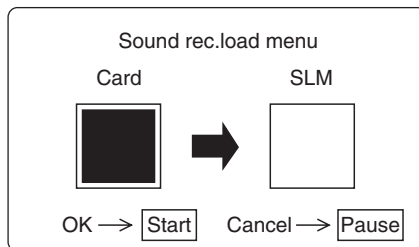
1. Open the card compartment and insert the program card.



- Hold down the Pause/Cont key while pressing the Power key to turn on the unit.



- The indication for loading the sound recording program appears. Press the Start/Stop key to start the loading process.



Program load verification screen
SLM stands for Sound Level Meter

- (black) Program is loaded
- (white) Program is not loaded

Note

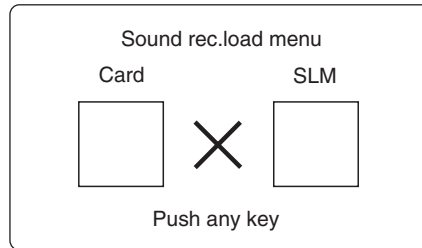
The sound recording function can only be loaded into one sound level meter at a time. When wishing to load the software into another sound level meter, you must first unload it from the previous sound level meter.

When the loading process is completed, the measurement screen appears and the sound recording function can be used.

When wishing to cancel the loading process, press the Pause/Cont key. The measurement screen appears, but the software is not loaded.

Program Load Blocking

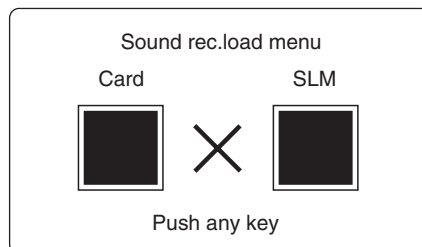
When the sound recording function has already been loaded from the program card into a sound level meter and the card is then inserted into the card slot of another sound level meter, an error screen such as shown below appears when attempting to load the software.



Program load error screen
SLM stands for Sound Level Meter

In this condition, press any key except the Power key to abort the process.

If the program card is inserted into the card slot of a sound level meter where the sound recording function is already loaded, an error screen such as shown below appears when attempting to load the software.



Program load error screen
SLM stands for Sound Level Meter

In this condition, press any key except the Power key to abort the process.

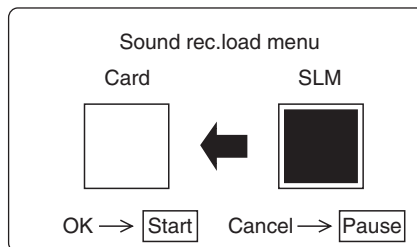
Important
Never remove the card while loading is in progress. Otherwise damage can occur.

To remove the program card, turn power to the sound level meter off and push the lever in.

Unloading the Sound Recording Function

To unload the sound recording function from a sound level meter, proceed as follows.

1. Open the card compartment and insert the program card.
2. Hold down the Pause/Cont key while pressing the Power key to turn on the unit.
3. The indication for unloading the sound recording function appears.



Program unload verification screen

SLM stands for Sound Level Meter

To unload the software, press the Start/Stop key. When the unloading process is completed, the measurement screen appears.

When wishing to cancel the unloading process, press the Pause/Cont key. The measurement screen appears, but the software is not unloaded.

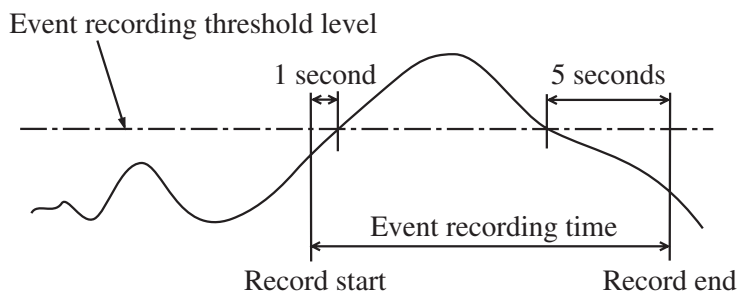
To remove the program card, turn power to the sound level meter off and push the lever in.

Event Recording and Interval Recording

Event Recording

For event recording, the sound is constantly monitored. When the sound level exceeds a preset threshold level, recording starts retroactively, from a point 1 second before the threshold was exceeded. When the sound level drops below the threshold, recording continues for 5 seconds and then stops. For each recorded event, a sound file labeled from SE0001 to SE9999 is created and stored on the memory card. When the file number SE9999 is reached, indication jumps to E0000 and new data will overwrite the old data, starting at SE0001.

If you set the event recording threshold level to 0 dB, recording will start as soon as you press the Store key and will continue until you press the Start/Stop key to end the measurement or until the memory card is full.

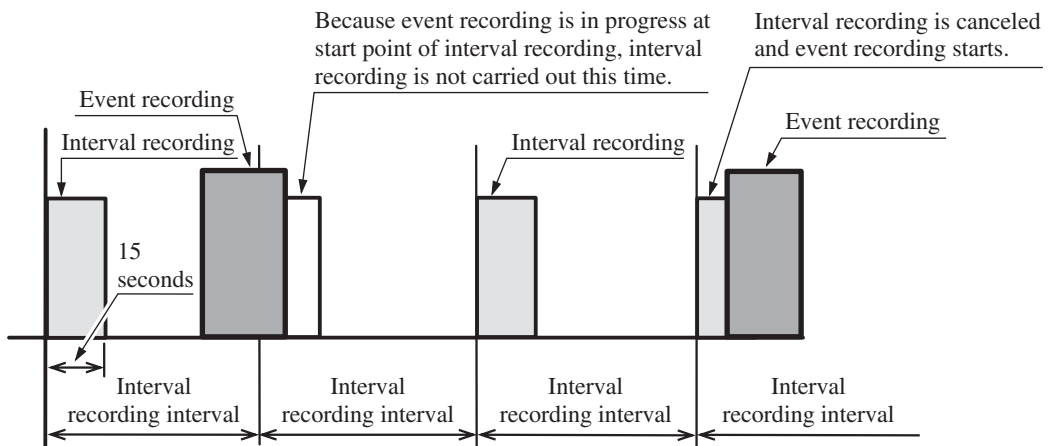


Event recording diagram

Interval Recording

Interval recording is started by pressing the Store key. At a preset recording interval, 15 seconds will be automatically recorded, and the resulting data are stored as files SI0001 to SI9999 on the memory card. When the file number SI9999 is reached, indication jumps to I0000 and new data will overwrite the old data, starting at SI0001.

When the preset event recording threshold level is exceeded while interval recording is in progress, interval recording is interrupted and event recording takes over. If the interval for interval recording is reached while event recording is in progress, interval recording is not carried out and event recording continues.



Interval recording diagram

Note

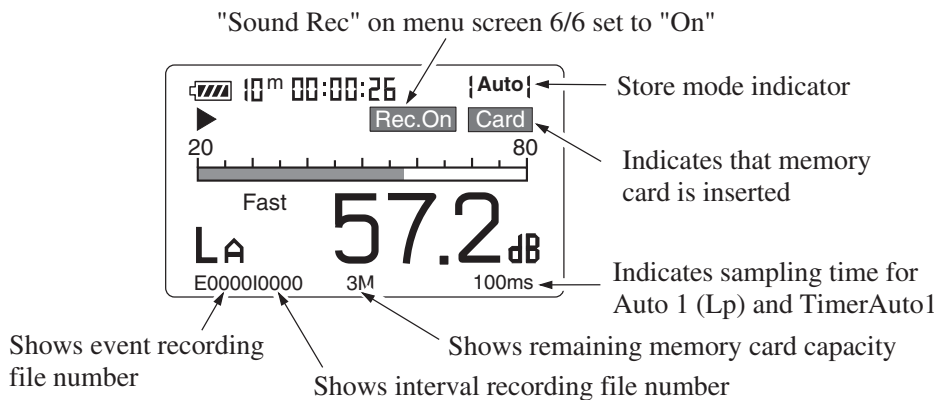
When using the sound recording function in Auto 2 store mode, auxiliary processing is not carried out.

Reading the Measurement Screen

Measurement Screen

When "Sound Rec" on menu screen 6/6 is set to "On", a display such as shown below appears. In actual use, not all display elements will be visible at the same time.

(The size and font of the display may differ.)



Measurement screen elements

Store mode indicator

Shows the mode that is used for storing data in memory. There are four modes: Auto1 (Lp), Auto2 (Leq), TimerAuto1, TimerAuto2. In manual store mode, the recording function cannot be used.

Card

Indicates that a memory card is inserted.

Rec.On

Appears when "Sound Rec" on menu screen 6/6 is set to "On".

E0000

Indicates the current file number for event recording.

10000

Indicates the current file number for interval recording.

3M

Shows the remaining space on the memory card.

100ms

When "Store Mode" on menu screen 2/6 is set to Auto1 (Lp), Timer Auto1, the data sampling time is shown.

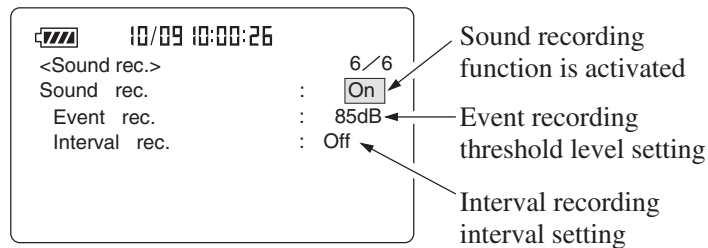
Auto Store (With Sound Recording)

Auto 1

Measurement Procedure

The procedure for recording sound in memory, using the Auto 1 mode, is described below.

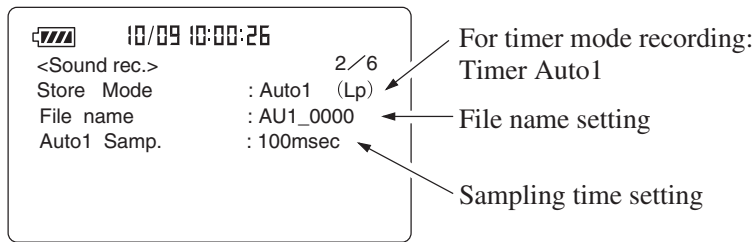
1. Verify that a memory card is inserted in the card slot.
2. Turn power to the sound level meter on.
3. Press the Menu key to call up the menu screen.
4. Use the Page Up/Down keys to select menu screen 6/6.



Menu screen 6/6

5. Use the ► key to move the highlight (field shown in reverse) for "Sound rec." to "On".
6. Use the ▼ key to select "Event rec." and use the ◀ and ▶ keys to set the event record threshold level.
7. Use the ▼ key to select "Interval rec." and use the ◀ and ▶ keys to select "Off", "15 min.", "30 min.", or "1 hour".

8. Use the Page Up/Down keys to select menu screen 2/6.

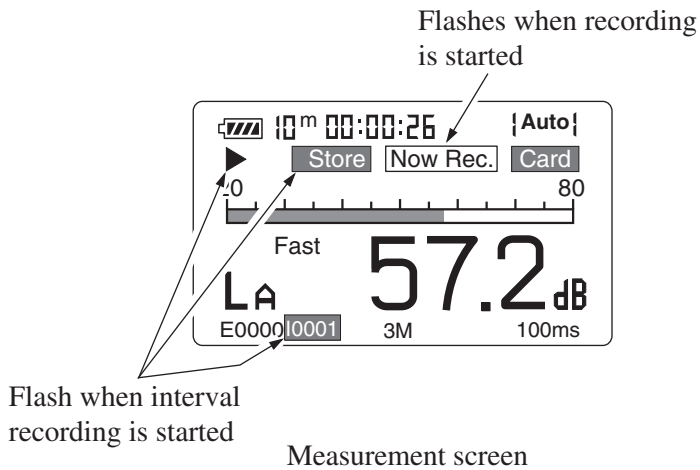


Menu screen 2/6

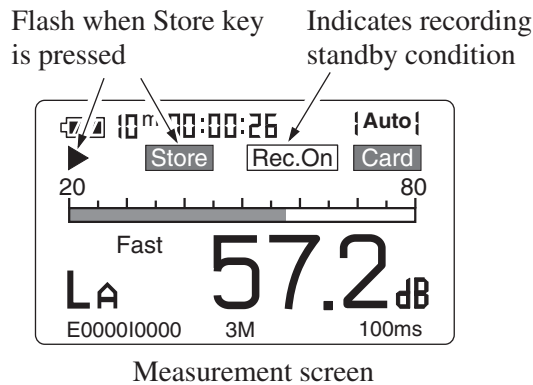
9. When the store mode is not "Auto 1 (Lp)", use the ▲ and ▼ keys to move to "Store Mode" and use the ◀ and ▶ keys to select "Auto 1 (Lp)". To use the timer mode, select "Timer Auto1".
10. Use the ▼ key to move to "File name" and use the ◀ and ▶ keys to change the 4 digits of the file name to a desired setting.
11. Use the ◀ and ▶ keys to set the recording level sampling interval (number of seconds) with "Auto1 Samp.".
12. Set the measurement start date and time (month, day, hour, minute) and then the measurement stop date and time (month, day, hour, minute). There is no setting for the year. (Only for timer mode)
13. Use the Page Up/Down keys to select menu screen 1/6.
Use the ▲ and ▼ keys to move the cursor to "M. time" and use the ◀ and ▶ keys to select the measurement time.
14. Press the Menu key to return to the measurement screen.
15. Select frequency weighting (A/C/FLAT) and time weighting (dynamic characteristics) (Fast/Slow) to suit the measurement.
16. Use the Level Range keys to select the level range. For environmental noise measurements, you should normally select the 100, 110, or 120 dB range. If the "Ov" (Over) or "Un" (Under) indicators light up frequently, change the level range setting.
17. Press the Store key.

Auto 1 Store Operation

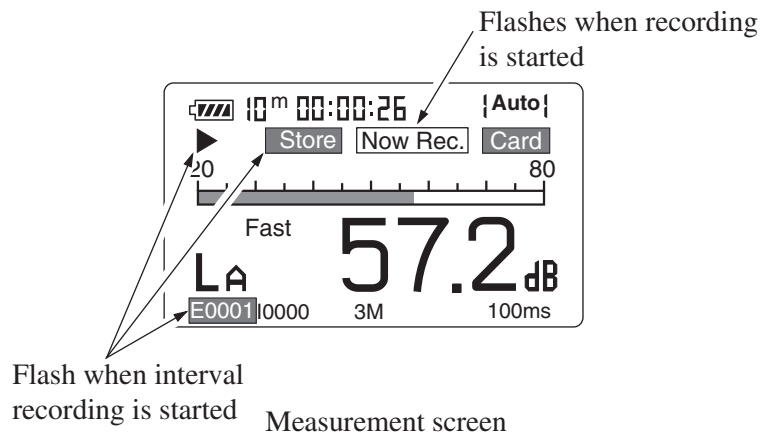
For normal Auto 1 (Lp) store, when interval recording is set in step 7, "▶", "Store", "Now Rec.", and "I0001" flash, and recording starts.



For normal Auto 1 (Lp) store, when interval recording is not set in step 7, "▶" and "Store" flash, and recording is in standby until the event recording threshold is reached.

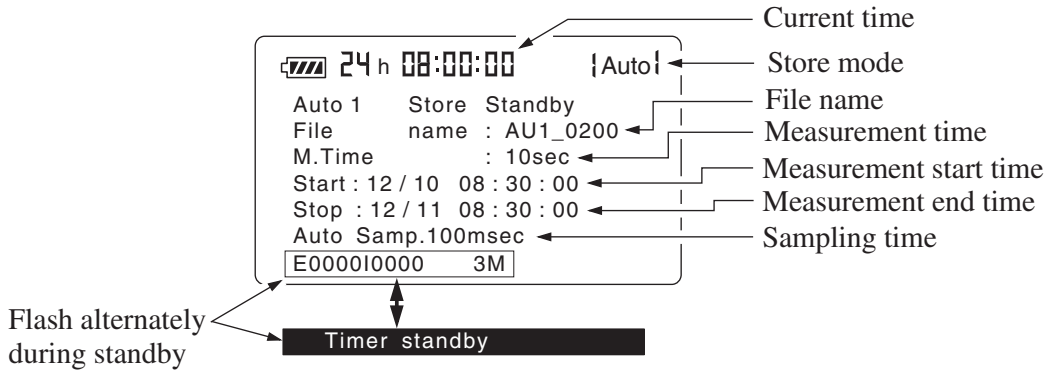


When the event recording threshold is crossed, "▶", "Store", "Now Rec.", and "E0001" flash, and recording starts.



Timer Auto 1 Store Operation

For Timer Auto 1 store, the Auto 1 store standby screen as shown below appears, and the unit is in power save mode.



Timer Auto 1 store standby screen

Note

Power consumption is reduced to 1/3 during standby. Pressing the Start/Stop key or the Store key during standby terminates the measurement. Pressing any other key causes the unit to return to the normal screen, but standby mode is activated again if there is no key operation for about 7 seconds.

10 seconds before the start of measurement, the normal screen is automatically restored, and measurement starts when the preset measurement start time is reached.

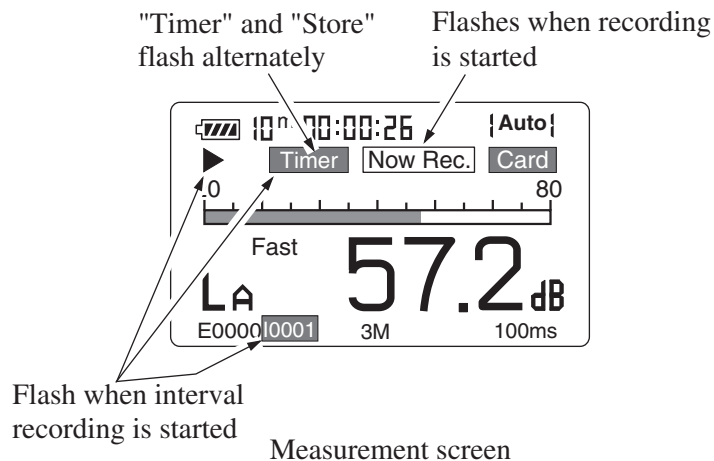
If measurement start time and measurement end time are set to the same values, measurement is not carried out.

Important

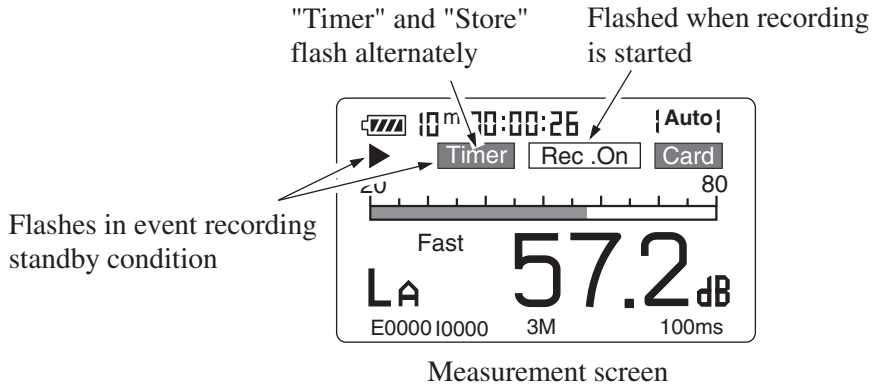
While storing is in progress, the A/C/FLAT key, Fast/Slow key and most other keys are inactive. Only the following three keys are active:
 Start/Stop, Pause/Cont, Light.
 All setup steps must be completed before starting the measurement.

While storing is in progress, the Pause/Cont key can be used to pause and resume the store operation. During pause, the pause indicator (||) appears.

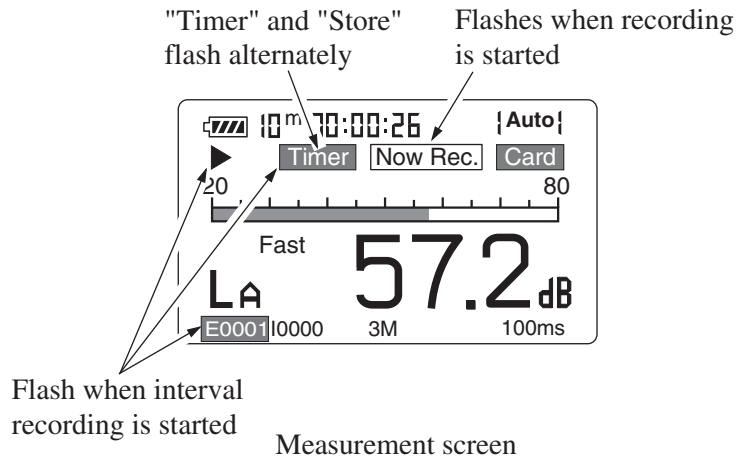
When interval recording is set in timer mode, "▶", "Store", "Timer", "Store", "Now Rec.", and "I0001" flash when the preset time is reached, and recording starts.



When interval recording is not set in timer mode, "▶", "Store", and "Timer" flash when the preset time is reached, and recording is on standby until the event recording threshold is reached.



When the event recording threshold is reached, "▶", "Store", "Timer", "Now Rec.", and "E0001" flash, and recording starts.



18. For normal Auto 1 store, the data store process terminates when the preset measurement time has elapsed.

To stop the process before that, you can press the Start/Stop key or the Store key.

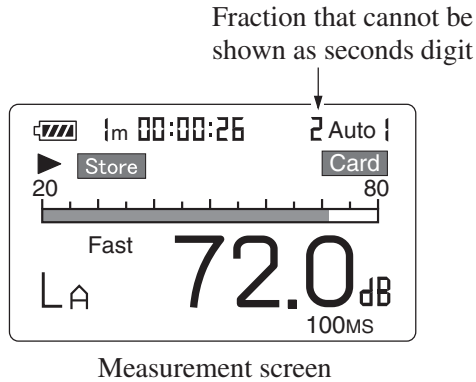
For Timer Auto 1 store, the data store process terminates when the preset measurement time has elapsed, or when the measurement end time is reached.

Note
The relationship between the elapsed measurement time and the number of data samples is as follows.
In Auto 1 store mode with 100 ms samples, 10 data are stored per second. Therefore when the elapsed measurement time is for example 10 seconds, 100 data will be stored. When 1 s samples are selected, 10 data will be stored for an elapsed measurement time of 10 seconds.
During Auto 1 store, the data exclusion (back-erase) function cannot be used.

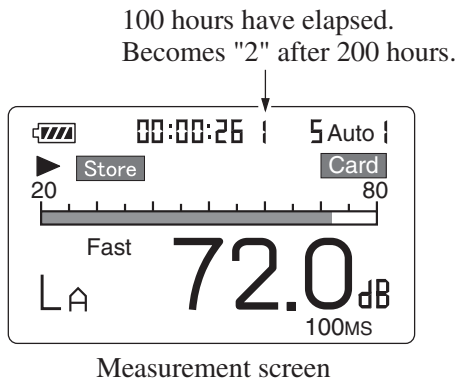
19. When timer mode measurement has terminated normally, the message shown below appears.

Timer mode measurement is completed Push any Key

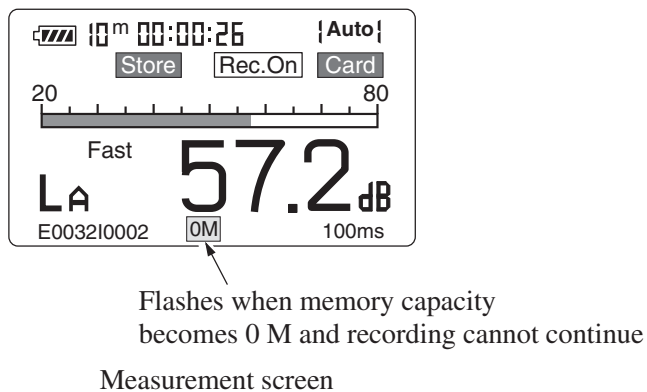
During Auto 1 store, the store address is converted into elapsed time for display. In the example below, the sampling interval is 100 ms, which means that 10 data per second are stored. The indication means that data number 262 is being stored.



When 100 hours have elapsed, "1" appears as the top digit of the address indication.



20. When the remaining memory capacity becomes insufficient to continue recording, the memory indication flashes as "0M" and then recording stops.

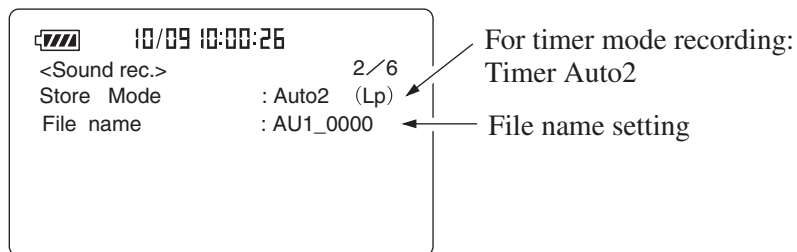


Auto 2

Measurement Procedure

The procedure for recording sound in memory, using the Auto 2 mode, is described below.

1. Verify that a memory card is inserted in the card slot.
2. Turn power to the sound level meter on.
3. Press the Menu key to call up the menu screen.
4. Use the Page Up/Down keys to select menu screen 6/6.
5. Use the ► key to move the highlight (field shown in reverse) for "Sound rec." to "On".
6. Use the ▼ key to select "Event rec." and use the ◀ and ▶ keys to set the event record threshold level.
7. Use the ▼ key to select "Interval rec." and use the ◀ and ▶ keys to select "Off", "15 min.", "30 min.", or "1 hour".
8. Use the Page Up/Down keys to select menu screen 2/6.



Menu screen 2/6

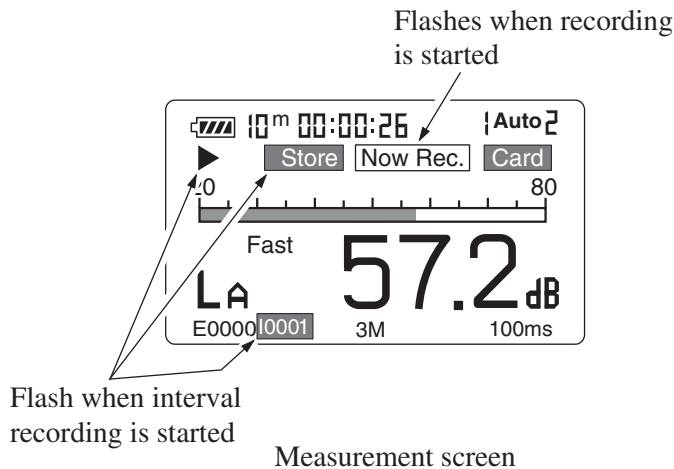
9. When the store mode is not "Auto 2 (Leq)", use the ▲ and ▼ keys to move to "Store Mode" and use the ◀ and ▶ keys to select "Auto 2 (Leq)". To use the timer mode, select "Timer Auto2".
10. Use the ▼ key to move to "File name" and use the ◀ and ▶ keys to change the 4 digits of the file name to a desired setting.
When using regular Auto 2 (Leq) store without the timer mode, proceed to step 14.
11. Set the measurement start date and time (month, day, hour, minute) and then the measurement stop date and time (month, day, hour, minute). There is no setting for the year. (Only for timer mode)
12. Use the ▲ and ▼ keys to move the cursor to the "Interval" setting, and use the ◀ and ▶ keys to set the recording cycle. (Only for timer mode)
13. Use the Page Up/Down keys to select menu screen 1/6.
Use the ▲ and ▼ keys to move the cursor to "M. time" and use the ◀ and ▶ keys to select the measurement time.

Note
For Auto 2, "Manual" cannot be selected as measurement time.

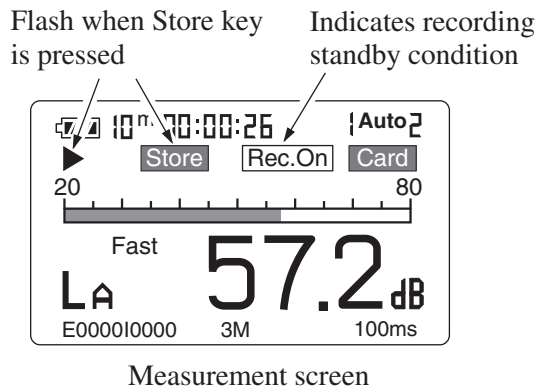
14. Press the ▼ key and use the ◀ and ▶ keys to select whether to use the data exclusion (back-erase) function. (In Timer Auto 2 store mode, the data exclusion (back-erase) function cannot be used.)
15. Press the Menu key to return to the measurement screen.
16. Select frequency weighting (A/C/FLAT) and time weighting (dynamic characteristics) (Fast/Slow) to suit the measurement.
17. Use the Level Range keys to select the level range. For environmental noise measurements, you should normally select the 100, 110, or 120 dB range. If the "Ov" (Over) or "Un" (Under) indicators light up frequently, change the level range setting.
18. Press the Store key.

Auto 2 (Leq) Store Operation

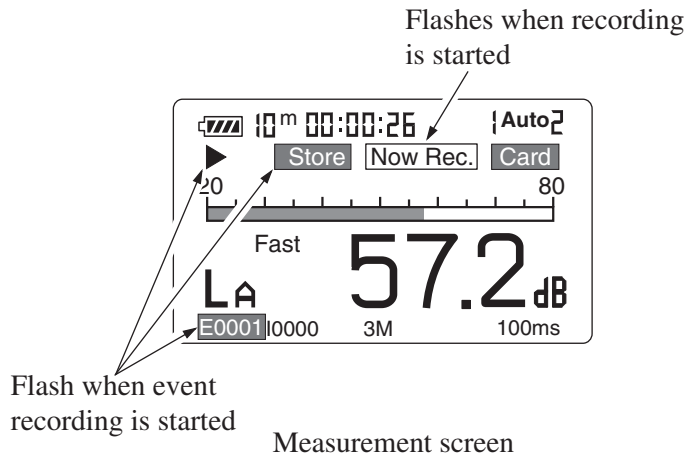
When interval recording is set in step 7, "▶", "Store", "Now Rec.", and "I0001" flash, and recording starts.



For normal Auto 2 (Leq) store, when interval recording is not set in step 7, "▶" and "Store" flash, and recording is on standby until the event recording threshold is reached.



When the event recording threshold is reached, "▶", "Store", "Now Rec.", and "E0001" flash, and recording starts.



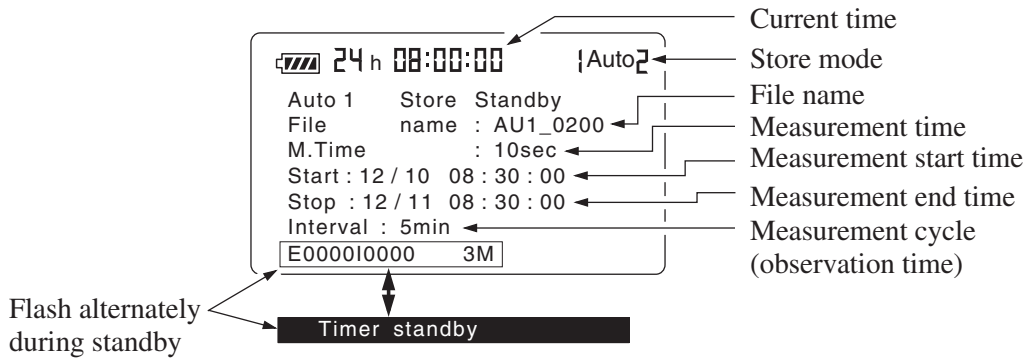
Important

While storing is in progress, the A/C/FLAT key, Fast/Slow key and most other keys are inactive. Only the following three keys are active:
 Start/Stop, Pause/Cont, Light.
 All setup steps must be completed before starting the measurement.

While storing is in progress, the Pause/Cont key can be used to pause and resume the store operation. During pause, the pause indicator (||) appears.

Timer Auto 2 Store Operation

For Timer Auto 2 store, the Auto 2 (Leq) store standby screen as shown below appears, and the unit is in power save mode.



Timer Auto 2 store standby screen

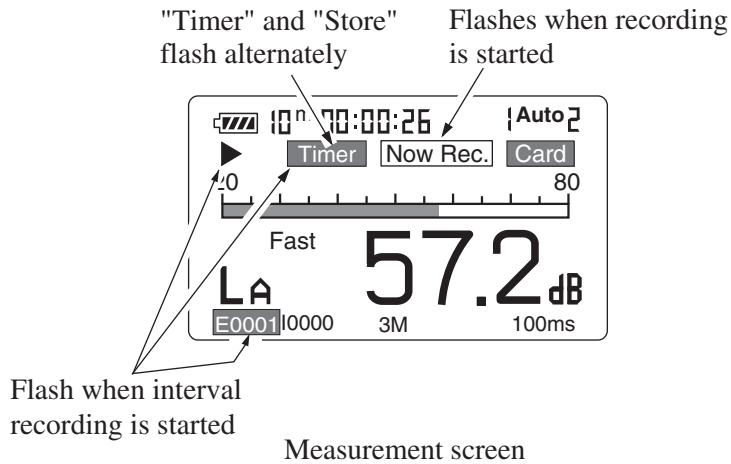
Note

Power consumption is reduced to 1/3 during standby. Pressing the Start/Stop key or the Store key during standby terminates the measurement. Pressing any other key causes the unit to return to the normal screen, but standby mode is activated again if there is no key operation for about 7 seconds.

10 seconds before the start of measurement, the normal screen is automatically restored, and measurement starts when the preset measurement start time is reached.

If measurement start time and measurement end time are set to the same values, measurement is not carried out.

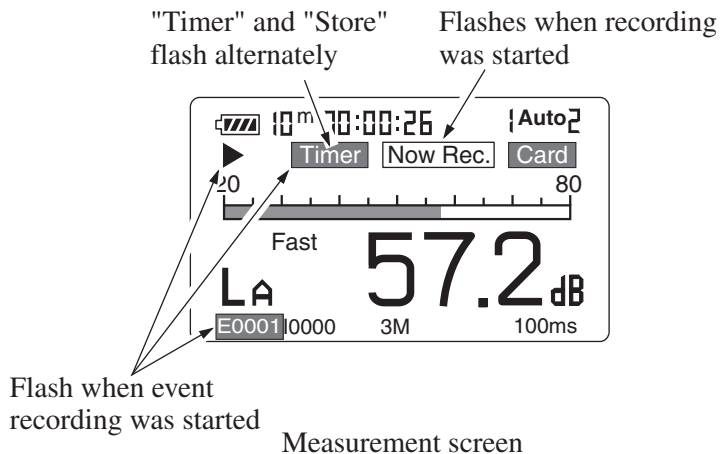
When the measurement cycle (observation time) set with the menu screen is reached, "▶", "Store", "Timer", "Now Rec.", and "E0001" flash, and recording starts.



Important

When a measurement cycle (observation time) has been set in menu screen 2/6, the interval recording setting on menu screen 6/6 becomes invalid, and the measurement cycle (observation time) setting in menu screen 2/6 is used for interval recording.

When the event recording threshold is reached, "▶", "Store", "Timer", "Now Rec.", and "E0001" flash, and recording starts.



Note

During Auto 2 store, the data exclusion (Back-Erase) function cannot be used.

If the Pause key is pressed while sound recording in Auto 2 mode is in progress, the recording is cancelled and the file is closed.

In case of data exclusion (Back-Erase) pause, preceding data are not erased for sound recording.

While the unit is in pause mode, the sound recording function is also disabled. Recording standby resumes when the pause condition is terminated.

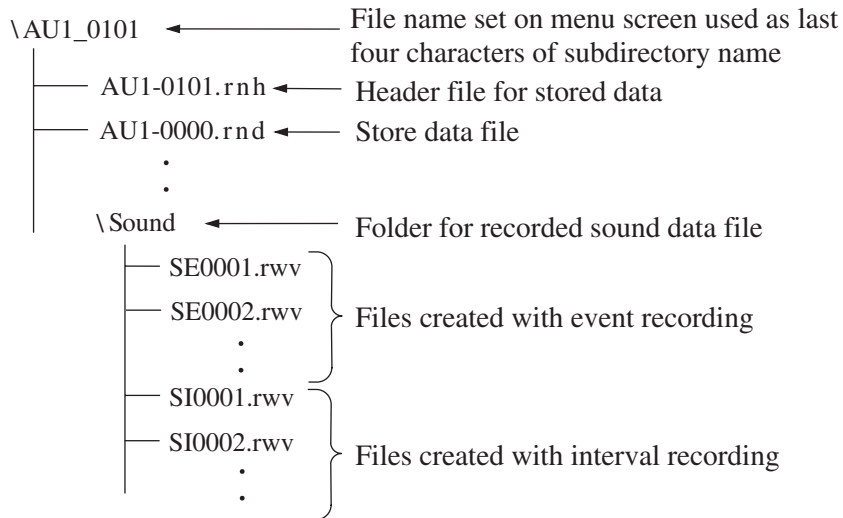
19. When timer mode measurement has terminated normally, the message shown below appears.

Timer mode measurement is completed

Push any Key

Store Data Format and File Structure

The file name set on the menu screen is used as the last four characters of the subdirectory name and header file name.



The header file contains information on measurement parameters etc.

The data files contain information about sound pressure level, overflow ("O"), underflow ("U"), and pause ("P") in CSV format.

Recorded sound data are stored in the "Sound" folder. Event recording files are compressed to 1/4, using a proprietary Rion method. These files are numbered continuously starting with SE0001, and the file extension is `rwv`. Interval recording files are also compressed to 1/4. These files are numbered continuously starting with SI0001, and the file extension is also `rwv`.

Card Capacity and Recording Time/ Number of Stored Data

Memory card capacity

When recording on memory card, there are two kinds of storage areas: an area for sound files + store data, and an area dedicated to store data.

When the area for sound files + store data becomes full, sound recording will stop, but data will continue to be recorded in the area dedicated to store data.

On a 16 MB memory card, the area dedicated to store data is 1 MB in size. On a 64 MB memory card and any larger-capacity card, the area dedicated to store data is always 16 MB in size. Therefore using larger-capacity memory cards means that the area for sound files + store data will be larger, as shown in the table below.

Approximate recording times for memory cards

Memory card capacity	Max. recording time	Area dedicated to store data	Area for sound files + store data
16 MB	approx. 35 minutes	1 MB	15 MB
64 MB	approx. 2 hours 10 minutes	16 MB	48 MB
128 MB	approx. 5 hours	16 MB	112 MB
256 MB	approx. 11 hours	16 MB	240 MB

Usage example for 64 MB memory card

Measurement conditions

Store mode: Auto1

Sampling interval: 100 ms

Number of event recordings:

100 (when event recording time is approx. 10 s)

Number of interval recording files:

72 (interval: 1 h)

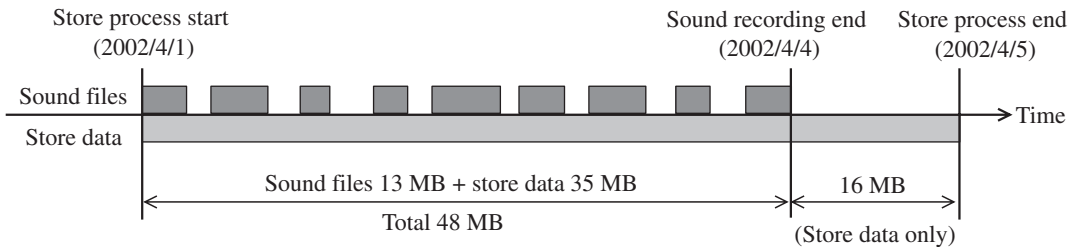
The memory card store process for measurement results obtained under the above conditions is as follows.

When the store mode is Auto1 and the sampling interval is 100 ms, 3 days of measurement will result in a store data size of about 35 MB.

(See store data size table on page 29.)

At the point where the number of sound files created since the start of recording reaches 100 and the number of interval recordings reaches 72 (as determined by the above conditions), the total size of recorded sound files is about 13 MB. Consequently, the remaining space on the memory card at this point is 16 MB.

For these remaining 16 MB, only store data are saved on the memory card. Sound recording is no longer carried out.



When sampling interval is 100 ms, data for approx. _____
32 hours can be stored.

Note

Recording times will differ depending on the sound level meter settings. For reference information on maximum recording times for a memory card, refer to the table on page 27.

Store data size

Data size requirements in Auto1 store mode are as follows.

Measurement time	Data size (MB)		
	100 ms	200 ms	1 s
1 hour	0.5	0.2	0.05
8 hours	3.8	1.9	0.4
24 hours (1 day)	11.5	5.8	1.2
3 days	34.6	17.3	3.5
7 days	80.8	40.4	8.1
Manual	96.1	48.1	9.6

In Auto2 store mode, 120 bytes are required per data. For example, when performing 10-minute interval measurements for a week, there will be 1008 data which require $1008 \times 120 =$ approx. 121 KB of space.

Installing the Playback Software

The supplied software has the following environment requirements.

- A PC capable of running Windows 98 / 98SE / Me / 2000 / NT4.0 Service Pack 6
- Windows 98 / 98SE / Me / 2000 / NT4.0 Service Pack 6
- Sound Level Meter NL-22 / NL-32
- CompactFlash memory card
- PCMCIA card slot or CompactFlash card reader on PC
- Sound card in PC

Minimum requirements

MMX Pentium 233 MHz, 64 MB RAM

Recommended specifications

Celeron 500 MHz or higher, 128 MB or more

Disk space required by software:

approx. 19 MB, depending on environment

Required free hard disk space:

min. 100 MB, more if large volume of data is to be stored

Installing the Sound Playback Software

1. Mount the program card (NX-22J) in the CompactFlash card adapter and insert it into the PCMCIA slot of the computer.
2. Open the card drive with Explorer or from My Computer. Copy the "Rion Sound Player_U" folder to the hard disk of the computer. Then execute the "Setup.exe" file from the copied folder. This starts the installation program. Unless you change the installation target, the sound playback software will be installed under "C:\Program Files\".

Uninstalling the Sound Playback Software

To remove the installed sound playback software from the computer, open the Control Panel, double-click on "Add / Remove Programs", and select "Rion Sound Player".

Note
The program card NX-22J can also be used as a memory card for storing data. To guard against possible problems, you should make a backup copy of the software.

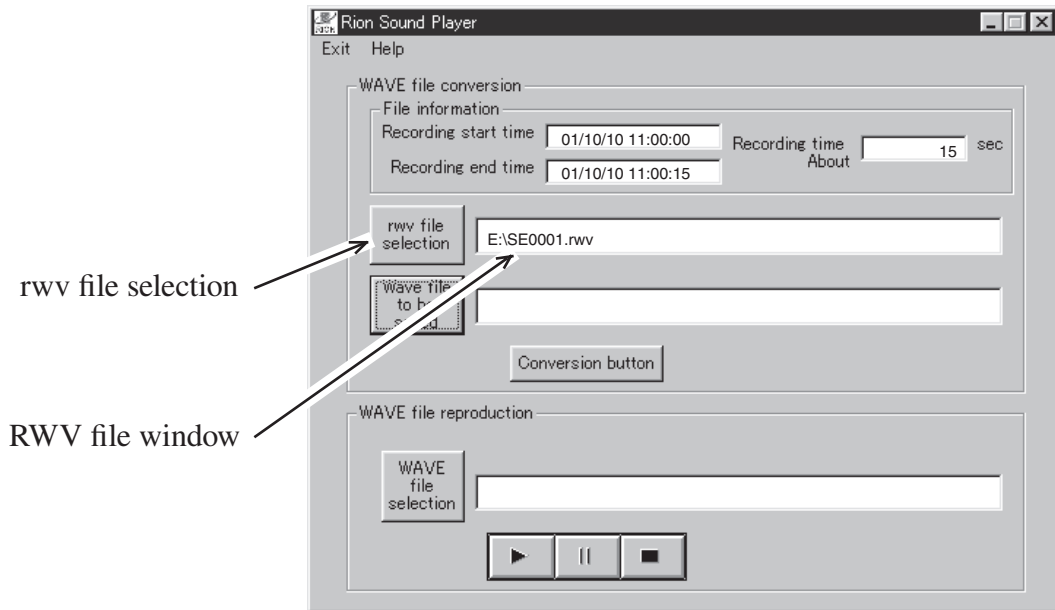
Playback of Recorded Files

File Selection and Conversion to WAVE Format

File Selection

Verify that a memory card on which sound data are recorded is inserted in the card slot of the computer.

1. In Windows, click on "Start" → "Programs (P)" → "Rion Sound Player" to start the playback software.
2. On the sound playback screen, click on the "rwv file selection" button, open the card drive where sound data are stored, and select the desired data from the memory card. The name of the selected data file is shown in the "RWV file" window.

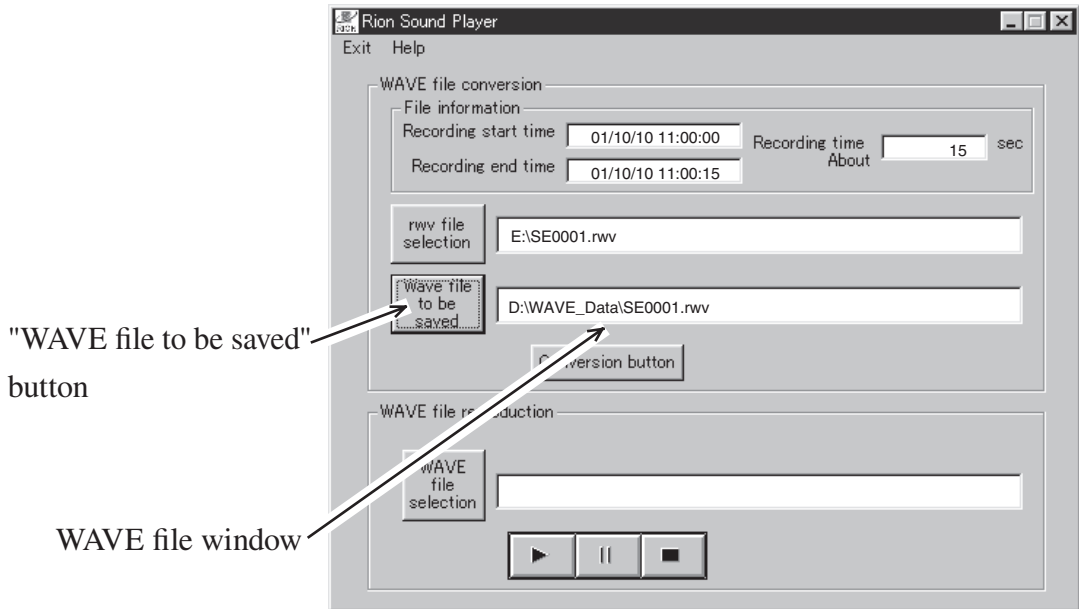


Sound playback screen

3. Click on the "WAVE file to be saved" button, select the desired target folder, and specify a target file name.

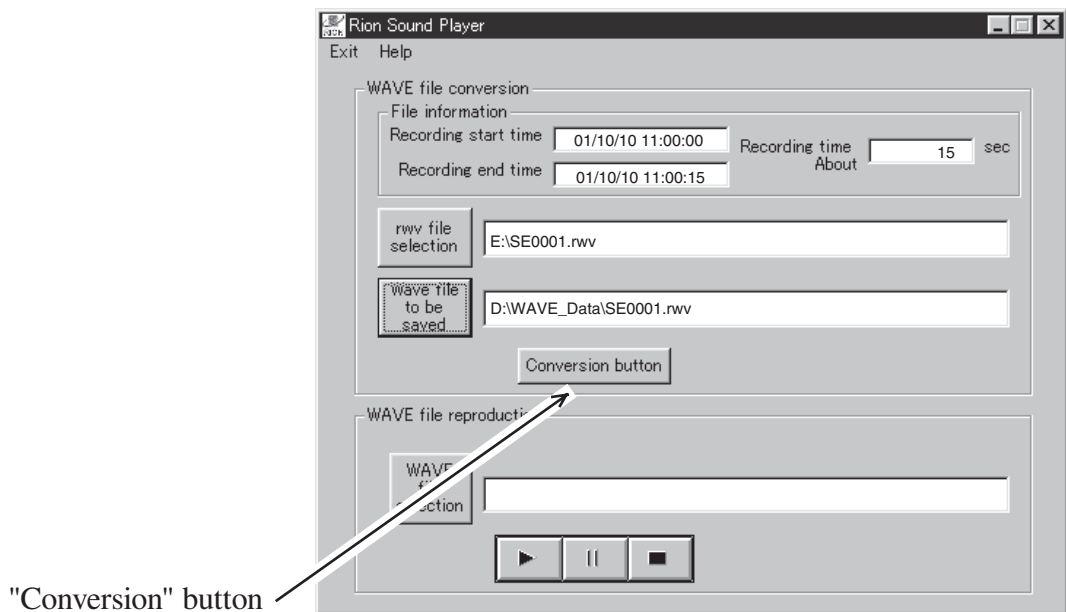
Conversion to WAVE File

1. Click on the "Conversion" button to convert the RWV file into a WAVE file that can be played on the computer.



WAVE file window

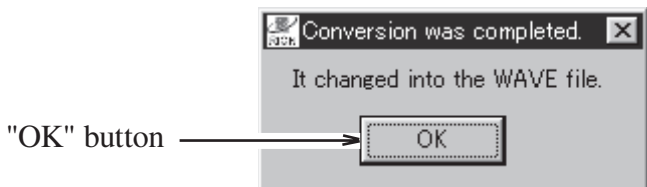
Sound playback screen



"Conversion" button

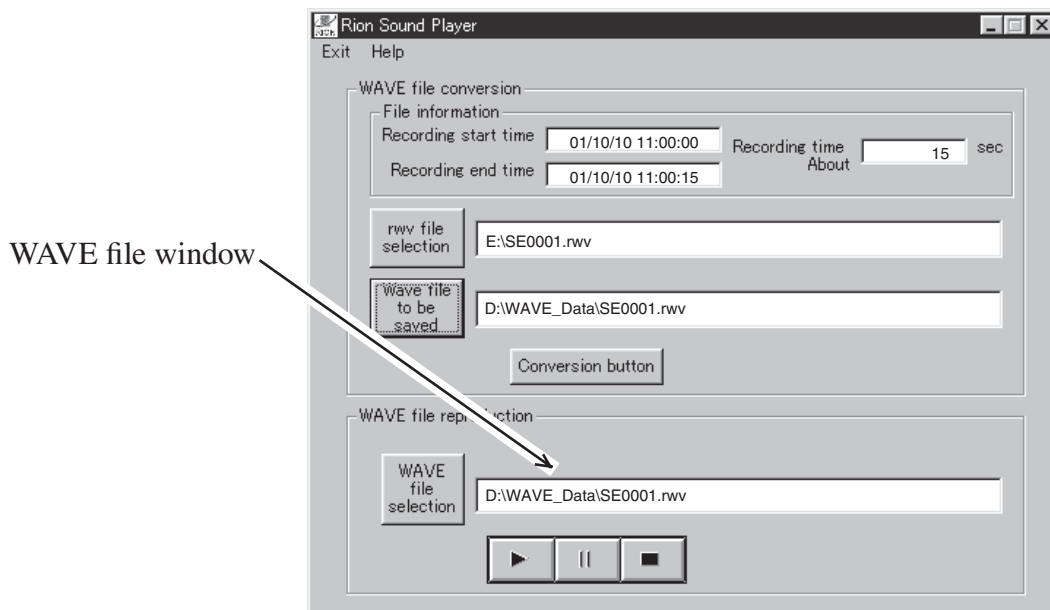
Sound playback screen

- When conversion is completed, a completion message appears. Click on the "OK" button to terminate the procedure.



Conversion completion message

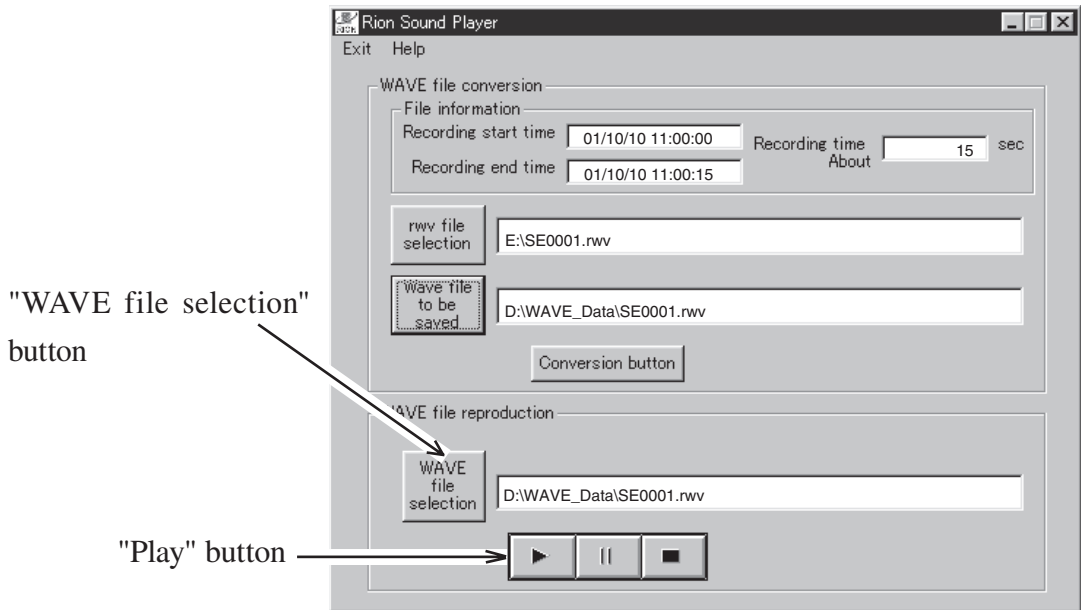
The converted file appears in the WAVE file window.



Sound playback screen

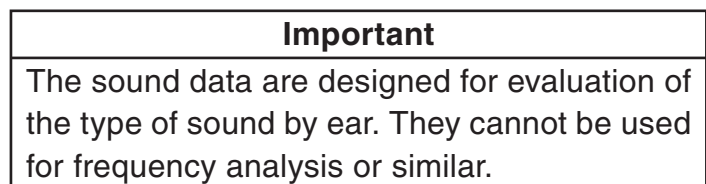
File Playback

1. Click on the "Play" button to play the sound file.



Sound playback screen

When playback is completed, the playback completion message appears. Click on the "OK" button to terminate the procedure. You can also play a converted WAVE file by clicking on the "WAVE file selection" button and then clicking on the "Play" button.



Playback completion message

Communication Commands

This section lists commands that are added to Sound Level Meter NL-22 / NL-32 into which the sound recording function is loaded. For information on other commands, please refer to the Serial Interface Manual of the NL-22 / NL-32.

Command Description

Sound recording function on/off

SRCp1

(Setting command)

Turn recording function on or off

p1 = 0: Set recording function to Off

p1 = 1: Set recording function to On

SRC?

(Request command)

Get recording function setting

Event recording threshold setting

SERp1

(Setting command)

Set event recording start threshold level

p1: 0, 30 to 130 Event recording threshold level (dB)

0 causes continuous recording

SER?

(Request command)

Get event recording threshold setting

Interval recording interval setting

SIRp1

(Setting command)

Set interval recording interval

p1 = 0: Off
 p1 = 1: 15 min
 p1 = 2: 30 min
 p1 = 3: 1 hour

SIR?

(Request command)

Get interval recording interval setting

Get sound file count

SWVp1p2?

(Sound file count request command)

Get event recording sound file, interval recording sound file

p1 = 0, p2 = 0: SE**** Return number of event sound files
 p1 = 0, p2 = 1: SI**** Return number of interval sound files
 Example for returned string: SI0032

(Sound file creation date/time)

p1 = file name (example: SE0001)
 p2 = 0: file creation date/time
 Example for returned string: 2001/10/29_15:31:04

Specifications

Compatible models	NL-22, NL-32
Media	64 MB CompactFlash card
Sound data recording format	Proprietary format compresses sound signal to about 1/4 for storing on CompactFlash card
Sampling frequency	12 kHz
Word length	16 bit
Recording time	Dependent on CompactFlash card capacity 16 MB: approx. 35 minutes, 64 MB: approx. 130 minutes Recording time also varies depending on measurement parameters.
Recording operation	Continuous sound recording linked to Auto 1 store and Auto 2 store When using the sound recording function in Auto 2 store mode, auxiliary processing is not carried out.
Functions	Level trigger recording Trigger level can be set from 30 to 130 dB in 1 dB steps. Recording starts from 1 second before trigger level is exceeded and ends 5 seconds after signal falls below trigger level. Interval recording Preset recording intervals OFF/15 min/30 min/1 hour Recording duration Fixed to 15 seconds
Playback	Dedicated software (supplied with NX-22J) converts sound data stored on CompactFlash card into WAVE files for playback.
Battery life	Using alkaline batteries (LR6), at 23°C NL-22: approx. 20 hours NL-32: approx. 16 hours
Dimensions and mass	36.4 × 42.8 × 3.3 mm, approx. 11.4 g

